#### DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES Office of Structural Materials

Quality Assurance and Source Inspection

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Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9

File #: 69.28

### WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary **Report No:** WIR-010273

Address: 333 Burma Road **Date Inspected:** 15-Nov-2009

City: Oakland, CA 94607

**Project Name:** SAS Superstructure **OSM Arrival Time:** 700 **OSM Departure Time:** 1900 **Prime Contractor:** American Bridge/Fluor Enterprises, a JV

Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

**CWI Name:** Wang Chuan Qing, Gong Liang ZhWI Present: Yes No

**Inspected CWI report:** Yes No N/A **Rod Oven in Use:** Yes No N/A N/A **Electrode to specification:** Yes No Weld Procedures Followed: Yes No N/A N/A **Qualified Welders:** Yes No **Verified Joint Fit-up:** Yes No N/A N/A Yes N/A **Approved Drawings:** Yes No **Approved WPS:** No Yes No N/A

**Delayed / Cancelled:** 

**Bridge No:** 34-0006 **Component:** Tower

#### **Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

#### Bay 11 Tower Skirt Plate

This QA inspector performed Magnetic Particle Testing (MT) of approximately 15% and random Visual Testing (VT) of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an MT reports for this date. The members are identified as Tower Components. The weld designations reviewed are as follows.

ESD1-A67-2-5, 6, 16, 17, 21, 22, 33, 34, 37, 63, 47, 51, 52, 142, 144, 59, 60, 55, 56 ESD1-A67-2-46 (VT REJECT, TWO SURFACE POROSITIES SEPARATED BY APPROX. 40mm)

Bay 10 North Tower Lift 4 Temperory Corner Wrapping Attachment

This QA inspector performed Ultrasonic Testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT reports for this date. The members are identified as Tower Components. The weld designations reviewed are as follows.

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NSTL4-3B/L-4A (AB CORNER)

NSTL4-3B/L-1A (CD CORNER)

NSTL4-3B/L-2A (DE CORNER)

NSTL4-3B/L-3A (AE CORNER)

Bay 10 Tower Skirt Plate

This QA inspector performed Magnetic Particle Testing (MT) of approximately 15% and random Visual Testing (VT) of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an MT reports for this date. The members are identified as Tower Components. The weld designations reviewed are as follows.

SD1-A712A/F-27, 41, 44, 1, 7, 18, 19, 14, 15, 16, 17

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 10

SAW welding of weld joint 1A located on ND1-SA3-16-99M-1.

Welder is identified as 052917. ZPMC CWI is identified as Mr. Wang Chuan Qing.

The welding variables recorded by QC appeared to comply with WPS-B-T-3221-Tc-U5-S-1.

FCAW welding of weld joint 1B located on SSD1-SPSA4-15.

Welder is identified as 053869. ZPMC CWI is identified as Mr. Gong Liang Zhu.

The welding variables recorded by QC appeared to comply with WPS-B-T-2232-B-U5-F.

SAW welding of weld joint 14A located on SSD1-TL5-1E-F.

Welder is identified as 040252. ZPMC QC is identified as Jiang La Mei.

The welding variables recorded by QC appeared to comply with WPS-B-T-3221-B-U3c-S-1.

SMAW welding of weld joint 27 located on ND1-A6002-12.

Welder is identified as 052930. ZPMC QC is identified as Mr. Yuan Hui Gang.

The welding variables recorded by QC appeared to comply with WPS-B-T-4113-1.

During random verification Visual Testing (VT) of Skirt plate, weld ESD1-A67-2-46 located in the Tower bay no. 11, Caltrans Quality Assurance (QA) Inspector observed two surface porosities separated by approximately 40mm. This QA Inspector confirmed these indications using the Magnetic Particle Testing (MT) method. This area had been previously tested and accepted by ZPMC NDT personnel. (NDT Inspection Notification sheet # 004640). This issue has an incident report.

During random verification Visual Testing (VT) of bolt holes on skin B of North tower lift 2, located in the Tower bay no. 10, Caltrans Quality Assurance (QA) Inspector observed bolt holes that appeared flame cut and were not drilled/reamed properly. This issue has an incident report.

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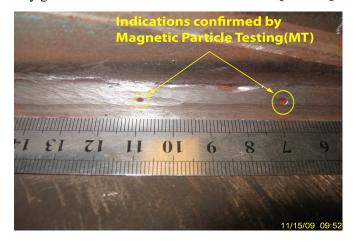
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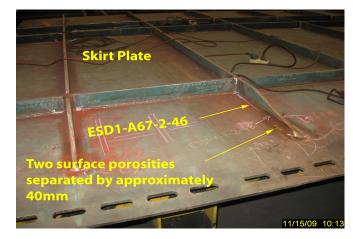
The attached photographs provide additional detail.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### **Summary of Conversations:**

Only general conversation was held between QA and QC concerning this project.











#### **Comments**

# WELDING INSPECTION REPORT

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Gaikwad,Umesh	Quality Assurance Inspector
Reviewed By:	Clifford, William	QA Reviewer